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JACK-PINE BUDWORM EGG SURVEY ON THE NICOLET NATIONAL FOREST - 1969

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INTRODUCTION

Jack-pine budworm, Choristoneura pinus pinus Free., outbreak first appeared at Conover, just outside the northwest boundaries of the Forest. For several years the outbreak remained in the same area. In 1968, two widely separated outbreaks occurred on the Forest. In the northwest area, at Lac Vieux Desert, the budworm finally moved in from the Conover outbreak. A sudden outbreak appeared near Thunder Mountain, in the southern part of the Forest. In 1969, the outbreak areas expanded and the severity of defoliation increased. An annual trend survey is made to observe budworm population fluctuations in order to develop methods of predicting outbreaks before severe damage occurs. This egg survey is a part of the trend survey.

METHODS

Six plots are systematically scattered throughout the jack-pine type of the Forest. Each plot is a jack pine stand at least 5 acres in size. Each sample consists of 4, 36 inch long branches (2 from mid-crown and 2 from lower-crown) taken from each of 10 dominant/co-dominant trees located in a cluster. The number of tips (current shoots) and the number of egg-masses and the degree of their parasitization was determined by a crew at Toumey Nursery. The average number of eggs per 100 tips was calculated with the assumption that an average egg-mass has 50 eggs. The egg numbers of parasitized egg-masses were reduced in proportion to the parasitization. Populations of more than 50 eggs per 100 tips are considered capable of causing severe damage, provided all budworms survive until pupation.

RESULTS

The southern outbreak, on the Lakewood Ranger District, has high egg populations (Table 1).

Observations from budworm in other outbreaks indicate that great numbers of budworms are lost in the spring after severe defoliation. Therefore, we suspect that severe defoliation may not occur in 1970, despite the large egg counts.

In the north outbreak, egg population at Lac Vieux Desert is declining (Plot 602). However, 2 other plots (601 and 603) show budworm increase. The budworm populations in the latter 2 plots are not sufficiently high to cause severe defoliation.

Table 1. The results of the 1969 egg survey and population trends since 1967.

Plot No.	Location			Number of eggs per 100 tips		
	T	R	S	1967	1968	1969
North						
601						
601	41	11	26	15	8	42
602	42	11	8	384	307	16
603	40	15	4	5	5	16
604	39	15	31	30	6	2
South						
605	32	17	11	40	452	124
606	31	17	22	30	238	295